

Notice of Allowability

Application No.

10/608,613

Examiner

Minh N. Tang

Applicant(s)

ONG, ADRIAN E.

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to September 24, 2004.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☒ The drawings filed on 27 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
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7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>6/27/03</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Examiner's Amendment

1. This application is in condition for allowance except for the presence of claims 29-32 to inventions non-elected without traverse. Accordingly, claims 29-32 have been cancelled.

2. Applicant's election without traverse of Group I (claims 1-28) in the reply filed on September 24, 2004 is acknowledged.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Woo on November 26, 2004.

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

a/ cancel claims 29-32.

b/ in claims 2, 3, 15, 16, 21, 24 and 25, all in line 1, insert -- , -- between "the access phase" and "the".

c/ in claim 10, line 6, "the first integrated circuit chip" has been changed to -- the memory chip --.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on June 27, 2003 is considered by the examiner.

Reasons For Allowance

5. Claims 1-28 are allowed over the art of record.
6. The following is an examiner's statement of reasons for allowance:

Claims 1-9 recite, inter alia, a system for testing a first integrated circuit chip to be packaged along with at least a second integrated circuit chip in a semiconductor device, wherein at least some external terminals for the semiconductor device are to be shared by the first and second integrated circuit chips, the system comprising on the first integrated circuit chip: a plurality of bonding pads for TDQ signals, wherein the TDQ signals are used to load test codes into the first integrated circuit during the programming phase and to read/write data to and from the first integrated circuit during an access phase of the test mode.

Claims 10-17 recite, inter alia, a memory chip for packaging along with at least a system chip in a semiconductor device, wherein at least some external terminals for the semiconductor device are to be shared by the memory chip and the system chip, the memory chip comprising: a second group of bonding pads for communicating a plurality of TDQ signals operable to load test codes into the memory chip during the programming phase and to read/write data to and from the memory chip during an access phase of the test mode.

Claims 18-22 recite, inter alia, a first integrated circuit chip for packaging along with at least a second integrated circuit chip in a semiconductor device, wherein at least some external terminals for the semiconductor device are to be shared by the first and the second integrated circuit chips, the first integrated circuit chip comprising up to

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eleven bonding pads for complete testing of the first integrated circuit chip, wherein the up to eleven bonding pads are for communicating TEST, SET, LOAD, and a plurality of TDQ signals, wherein the plurality of TDQ signals are operable to load test codes into the first integrated circuit during the programming phase of the test mode and to read/write data to and from the first integrated circuit chip during an access phase of the test mode.

Claims 23-28 recite, inter alia, a system for testing a first integrated circuit chip to be packaged along with at least a second integrated circuit chip in a semiconductor device, wherein at least some external terminals for the semiconductor device are to be shared by the first and second integrated circuit chips, the system comprising up to eight bonding pads on the first integrated circuit chip for receiving corresponding TDQ signals, wherein the TDQ signals are used to load test codes into the first integrated circuit during a programming phase of the test mode and to read/write data to and from the first integrated circuit during an access phase of the test mode.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

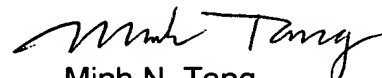
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on (571) 272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Minh N. Tang
Primary Examiner
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11/29/04